



## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	Methods And Apparatus For Generating High-Density Plasma																																																																																																																																
<p>Application Number: 10/065629</p> <p>Confirmation Number: 4225</p> <p>First Named Applicant: Roman Chistyakov</p> <p>Attorney Docket Number: ZON-002</p> <p>Search string: ( 4588491 or 4953174 or 5015493 or 5083061 or 5247531 or 5286360 or 5718813 or 5728278 or 5733418 or 5795452 or 5863392 or 6057244 or 6238537 or 6296742 or 6361667 or 6413382 or 6413383 or 6436251 or 6451703 or 6471833 or 20020019139 or 20020114897 or 20030006008 ).pn.</p>																																																																																																																																	
<p>US Patent Documents</p> <p>Note: Applicant is not required to submit a paper copy of cited US Patent Documents</p>																																																																																																																																	
<table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td>102</td><td>1</td><td>4588491</td><td>1986-05-13</td><td>Cuomo et al.</td><td></td><td>204</td><td>298</td></tr><tr><td>102</td><td>2</td><td>4953174</td><td>1990-08-28</td><td>Eldridge et al.</td><td></td><td>372</td><td>87</td></tr><tr><td>102</td><td>3</td><td>5015493</td><td>1991-05-14</td><td>Gruen</td><td></td><td>427</td><td>38</td></tr><tr><td>102</td><td>4</td><td>5083061</td><td>1992-01-21</td><td>Koshiishi et al.</td><td></td><td>315</td><td>111.81</td></tr><tr><td>102</td><td>5</td><td>5247531</td><td>1993-09-21</td><td>Muller-Horshe</td><td></td><td>372</td><td>38</td></tr><tr><td>102</td><td>6</td><td>5286360</td><td>1994-02-15</td><td>Szcyrkowski et al.</td><td></td><td>204</td><td>298.08</td></tr><tr><td>102</td><td>7</td><td>5718813</td><td>1998-02-17</td><td>Drummond et al.</td><td></td><td>204</td><td>192.12</td></tr><tr><td>102</td><td>8</td><td>5728278</td><td>1998-03-17</td><td>Okamura et al.</td><td></td><td>204</td><td>298.11</td></tr><tr><td>102</td><td>9</td><td>5733418</td><td>1998-03-31</td><td>Hershcovitch et al.</td><td></td><td>204</td><td>192.11</td></tr><tr><td>102</td><td>10</td><td>5795452</td><td>1998-08-18</td><td>Kinoshita et al.</td><td></td><td>204</td><td>298.37</td></tr><tr><td>102</td><td>11</td><td>5863392</td><td>1999-01-26</td><td>Drummond et al.</td><td></td><td>204</td><td>192.12</td></tr><tr><td>102</td><td>12</td><td>6057244</td><td>2000-05-02</td><td>Hausmann et al.</td><td></td><td>438</td><td>706</td></tr><tr><td>102</td><td>13</td><td>6238537</td><td>2001-05-29</td><td>Kahn et al.</td><td>B1</td><td>204</td><td>598.04</td></tr><tr><td>102</td><td>14</td><td>6296742</td><td>2001-10-02</td><td>Kouznetsov</td><td>B1</td><td>204</td><td>192.12</td></tr><tr><td>102</td><td>15</td><td>6361667</td><td>2002-03-26</td><td>Kobayashi et al.</td><td>B1</td><td>204</td><td>298.11</td></tr></tbody></table>		init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass	102	1	4588491	1986-05-13	Cuomo et al.		204	298	102	2	4953174	1990-08-28	Eldridge et al.		372	87	102	3	5015493	1991-05-14	Gruen		427	38	102	4	5083061	1992-01-21	Koshiishi et al.		315	111.81	102	5	5247531	1993-09-21	Muller-Horshe		372	38	102	6	5286360	1994-02-15	Szcyrkowski et al.		204	298.08	102	7	5718813	1998-02-17	Drummond et al.		204	192.12	102	8	5728278	1998-03-17	Okamura et al.		204	298.11	102	9	5733418	1998-03-31	Hershcovitch et al.		204	192.11	102	10	5795452	1998-08-18	Kinoshita et al.		204	298.37	102	11	5863392	1999-01-26	Drummond et al.		204	192.12	102	12	6057244	2000-05-02	Hausmann et al.		438	706	102	13	6238537	2001-05-29	Kahn et al.	B1	204	598.04	102	14	6296742	2001-10-02	Kouznetsov	B1	204	192.12	102	15	6361667	2002-03-26	Kobayashi et al.	B1	204	298.11
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16	6413382	2002-07-02	Wang et al.	B1	204	192.12
17	6413383	2002-07-02	Chiang et al.	B1	204	192.13
18	6436251	2002-08-20	Gopalraja et al.	B2	204	298.12
19	6451703	2002-09-17	Liu et al.	B1	438	710
20	6471833	2002-10-29	Kumar et al.	B2	204	192.37

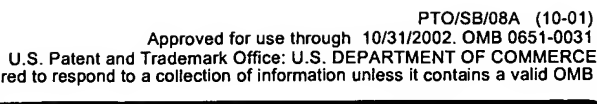
## US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
12	1	20020019139	2002-02-14	Zhang et al.	A1	438	714
12	2	20020114897	2002-08-22	Sumiya et al.	A1	427	569
12	3	20030006008	2003-01-09	Horioka et al.	A1	156	345.46

Signature

Examiner Name	Date
<i>Wilson Klee</i>	<i>9-22-03</i>



Substitute for form 1449A/PTO

*(use as many sheets as necessary)*

Sheet	1	of	3
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**Complete if Known**

<b>Application Number</b>	10/065,629
<b>Filing Date</b>	11/04/2002
<b>First Named Inventor</b>	Chistyakov
<b>Art Unit</b>	2817
<b>Examiner Name</b>	Wong
<b>Attorney Docket Number</b>	ZON-002

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Country Code <sup>3</sup>	-Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
	B1	WO	98/40532	09/17/1998	Chemfilt R. & D. ...		
	B2	WO	01/98553 AI	12/27/2001	Chemfilt R. & D. AB		

Examiner  
Signature

Hilson Lee

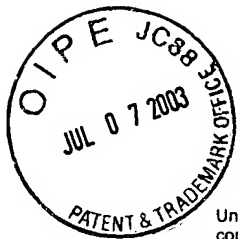
Date Considered

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Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/065,629
		Filing Date	11/04/2002
		First Named Inventor	Chistyakov
		Group Art Unit	2817
		Examiner Name	Wong
Sheet 2 of 3	Attorney Docket Number	ZON-002	

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
W2	C1	BOOTH, ET AL., The Transition From Symmetric To Asymmetric Discharges In Pulsed 13.56 MHz Capacity Coupled Plasmas, J. Appl. Phys., July 15, 1997, Pgs. 552-560, Vol. 82 (2), American Institute of Physics.	
W2	C2	BUNSHAH, ET AL., Deposition Technologies For Films And Coatings, Materials Science Series, Pgs. 176-183, Noyes Publications, Park Ridge, New Jersey.	
W2	C3	DAUGHERTY, ET AL., Attachment-Dominated Electron-Beam-Ionized Discharges, Applied Science Letters, May 15, 1976, Vol. 28, No. 10, American Institute of Physics.	
W2	C4	GOTO, ET AL., Dual Excitation Reactive Ion Etcher for Low Energy Plasma Processing, J. Vac. Sci. Technol. A, Sept./Oct. 1992, Pgs. 3048-3054, Vol. 10, No. 5, American Vacuum Society.	
W2	C5	KOUZNETSOV, ET AL., A Novel Pulsed Magnetron Sputter Technique Utilizing Very High Target Power Densities, Surface & Coatings Technology, Pgs. 290-293, Elsevier Sciences S.A.	
W2	C6	LINDQUIST, ET AL., High Selectivity Plasma Etching Of Silicon Dioxide With A Dual Frequency-27/2-MHz Capacitive-RF-Discharge.	
W2	C7	MACAK, Reactive Sputter Deposition Process of Al <sub>2</sub> O <sub>3</sub> and Characterization Of A Novel High Plasma Density Pulsed Magnetron Discharge, Linkoping Studies In Science And Technology, 1999, Pgs. 1-2, Sweden.	
W2	C8	MACAK, ET AL., Ionized Sputter Deposition Using An Extremely High Plasma Density Pulsed Magnetron Discharge, J. Vac. Sci. Technol. A., July/August 2000, Pgs. 1533-37, Vol. 18, No. 4, American Vacuum Society.	

Examiner Signature	<i>Richard Lee</i>	Date Considered	9-22-03
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>		<b>Complete if Known</b>	
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Sheet	3	of	3
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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
WZ	C9	MOZGRIN, ET AL., High-Current Low-Pressure Quasi -Stationary Discharge In A Magnetic Field: Experimental Research, Plasma Physics Reports, 1995, Pgs. 400-409, Vol. 21, No. 5, Mozgrin, Feitsov, Khodachenko.	
WZ	C10	ROSSNAGEL, ET AL., Induced Drift Currents In Circular Planar Magnetrons, J. Vac. Sci. Technol. A., January/February 1987, Pgs. 88-91, Vol. 5, No. 1, American Vacuum Society.	
WZ	C11	SHERIDAN, ET AL., Electron Velocity Distribution Functions In A Sputtering Magnetron Discharge For The EXB Direction, J. Vac. Sci. Technol. A., July/August 1998, Pgs. 2173-2176, Vol. 16, No. 4, American Vacuum Society.	
WZ	C12	STEINBRUCHEL, A Simple Formula For Low-Energy Sputtering Yields, Applied Physics A., 1985, Pgs. 37-42, Vol. 36, Springer-Verlag.	

Examiner Signature	<i>Wilson Lee</i>	Date Considered	9-22-03
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